

Framework-Survey Integration Group Report

M. Martin Taylor
Martin Taylor Consulting
Canada

Amy K.C.S. Vanderbilt
Wave Technologies, INC
USA

Mark R. Nixon
Aerospace Corporation
USA

David Zeltzer
Northrop Grumman
USA

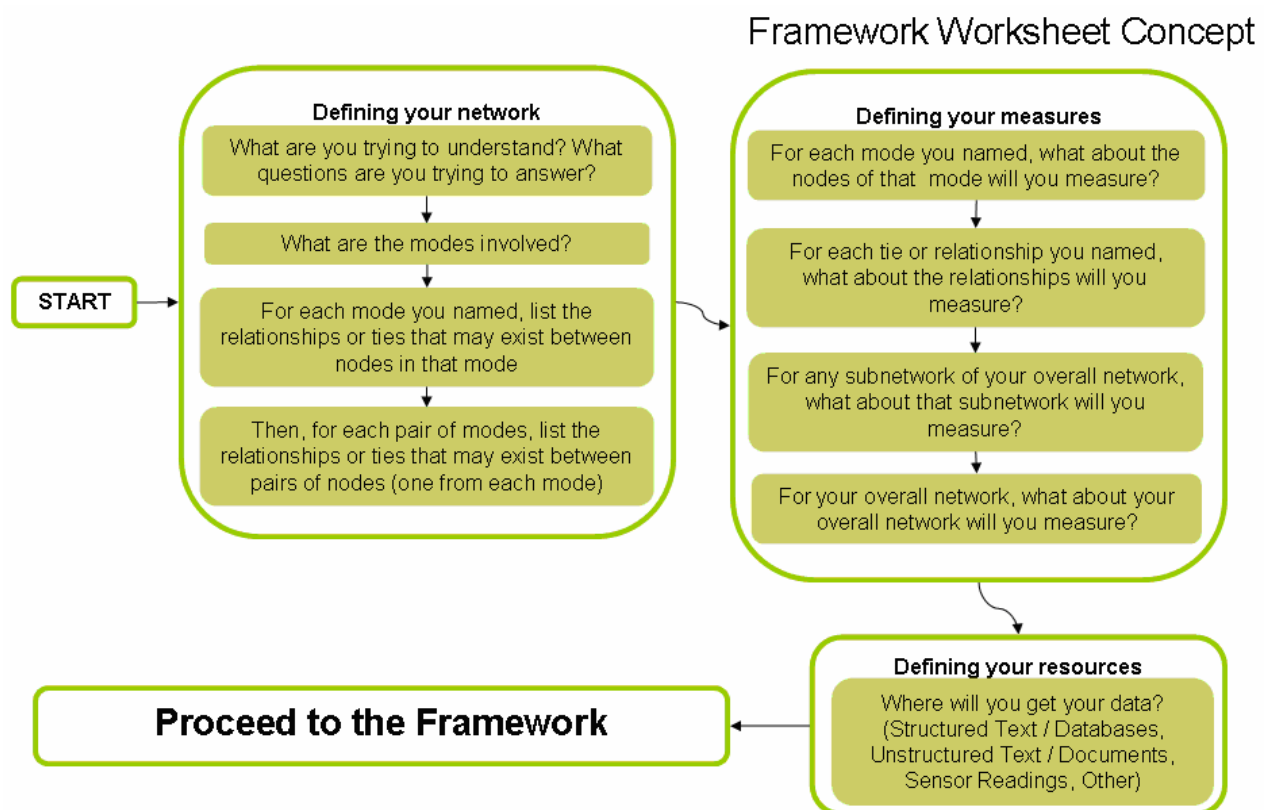
Alain Bouchard
Defence R&D Canada – Valcartier
Canada

1 INTRODUCTION

The framework and survey have been independently generated within the RTG. To bring them together is an ongoing project. The objective of the working group was to converge them so that the framework could be used to determine the effectiveness of the applications in the survey for various user purposes. The group worked mainly on the framework to further develop it in terms useful towards integration with the survey.

2 WORKSHEET CONCEPT

One conclusion reached during the working group was the need for a worksheet what would guide users through the process of defining their problem and network in preparation for using the framework. The worksheet may be some version of the following:



Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 01 DEC 2006		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE Framework-Survey Integration Group Report				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Martin Taylor Consulting Canada; Wave Technologies, INC USA				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES See also ADM002067., The original document contains color images.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 12	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

3 REFINED FRAMEWORK

The framework was refined as a pair of taxonomies that would be presented to the user either interactively or as a check list where the user would define their specific requirements.

3.1 Task Level Taxonomy

What follows is a taxonomy for defining the user task aspects required for the framework.

- Domain Context
 - Tempo
 - Real time
 - Short Term
 - Long Term
 - Activity
 - Explore
 - Monitor / control
 - Search
 - Alert
 - Domain Context
- Network Aspects
 - Nodes
 - Single Mode
 - Multi-modal
 - Links
 - Single links
 - Multi-plex
 - Metrics
 - Single metric
 - Multi-metric

3.2 Display Taxonomy

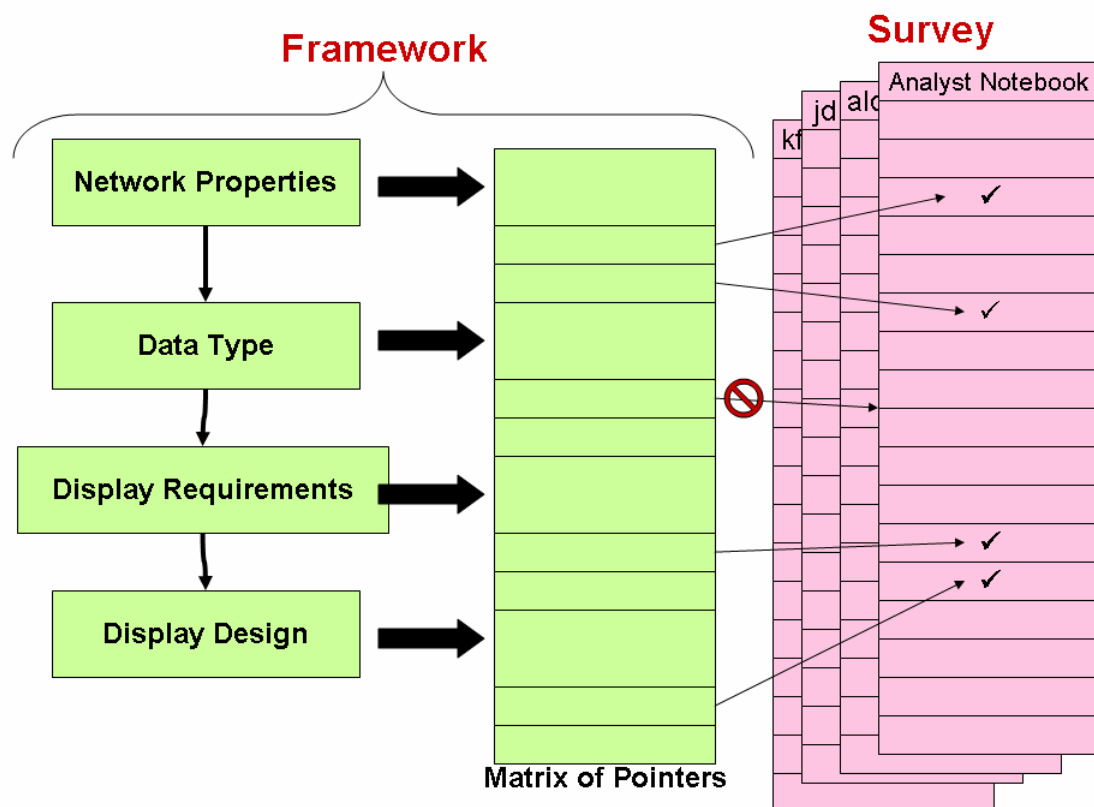
This taxonomy details important properties of the display that will aid the user in choosing a visualization application:

- Timing
 - Static
 - Dynamic

- Data selection
 - User-selected
 - Interactive
 - Preset
 - Algorithmically directed
- Data placement
 - Located
 - Point
 - Extended
 - Labeled
 - Interactive
 - Non-interactive
- Data values
 - Analogue
 - Scalar
 - Vector
 - Categorical
 - Linguistic
 - Non-linguistic
- Data manipulation
 - Interactive
 - Algorithmic

4 USING THE FRAMEWORK

The overall intent for how the framework would be used when complete is as follows:



The user details their requirements within the framework. These requirements are mapped – part by part – to specific characteristics detailed for each application within the survey. At the same time, aspects of the user requirements that are not met by applications in the survey would be brought to the user’s attention as not being met. This aspect will be useful to developers as it will point them to the areas of greatest development need; but would serve the user community equally well to manage expectations and detail the art of the possible.

Framework / Survey Integration Group

Group Report
Oct 20th, 2006

M. Martin Taylor, Amy K. C. S. Vanderbilt,
Mark R. Nixon, David Zeltzer, Alain Bouchard

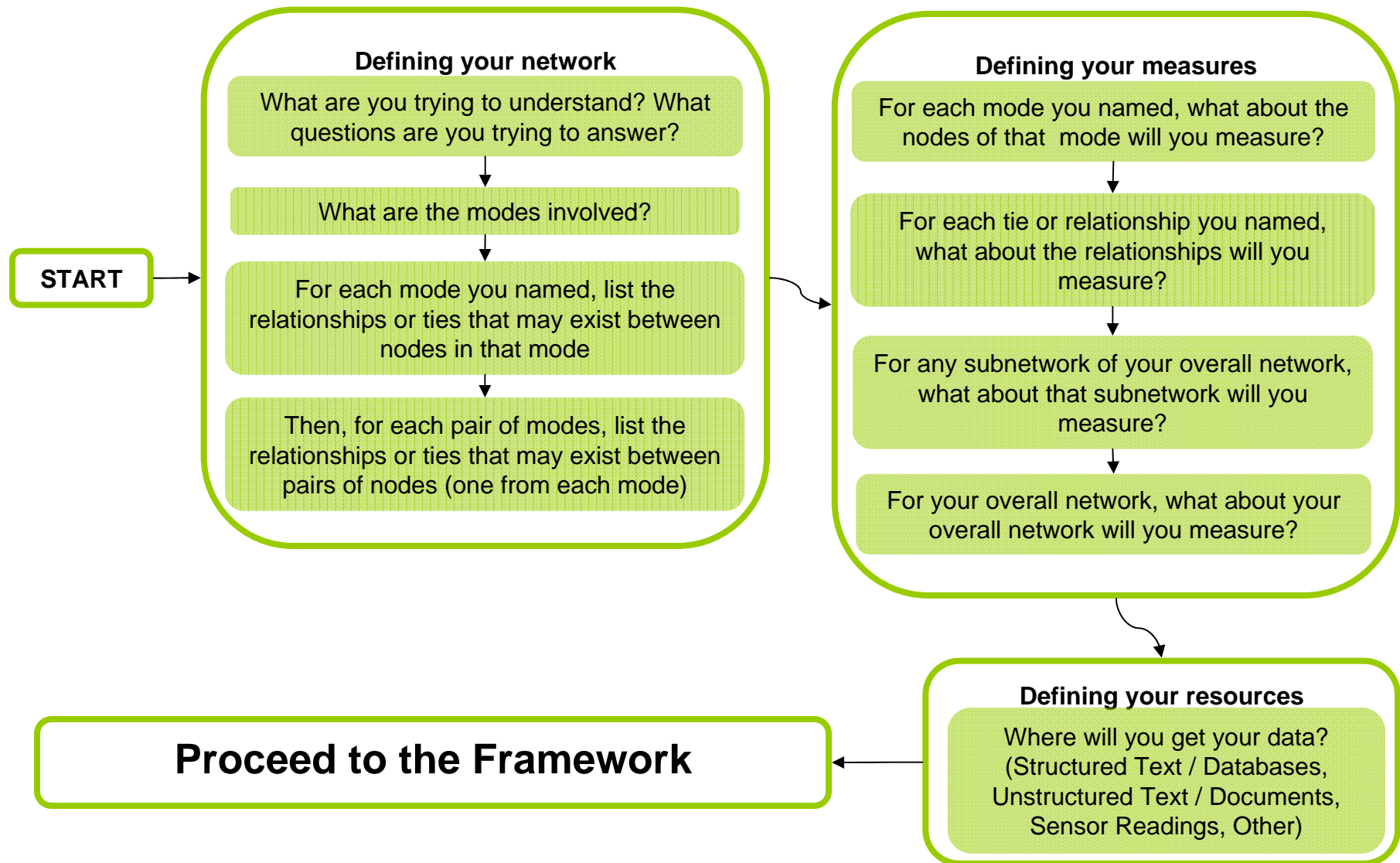
Purpose

- Framework and survey have been independently generated within the RTG. To bring them together is an ongoing project.
- Objective was to converge them so that the framework could be used to determine the effectiveness of the applications in the survey for various user purposes
- We worked mainly on the framework to further develop it in terms useful towards integration with the survey

Results

- The framework does not substitute for domain knowledge on the part of the user
- The framework should be accompanied by a “worksheet” exercise to help the user define the problem and the associated network in order to derive the information required to use the framework.
- The framework was extended to include display techniques and modes of perception

Framework Worksheet Concept



Task Level Taxonomy

❖ Domain Context

➤ Tempo

- Real time
- Short Term
- Long Term

➤ Modes of Perception

- Explore (network structure)
- Monitor / control (activity)
- Search (finding new data)
- Alert (offline agents?)

➤ *Domain of Discourse*

❖ Network Aspects

➤ Nodes

- Single Mode
- Multi-modal

➤ Links

- Single links
- Multi-plex

➤ Metrics

- Single metric
- Multi-metric

Display Taxonomy

❖ Variability

- Static
- Dynamic

❖ Data selection

- User-selected
 - Interactive
 - Preset
- Algorithmically directed

❖ Data placement

- Located
 - Point
 - Extended
- Labeled
- Interactive
- Non-interactive

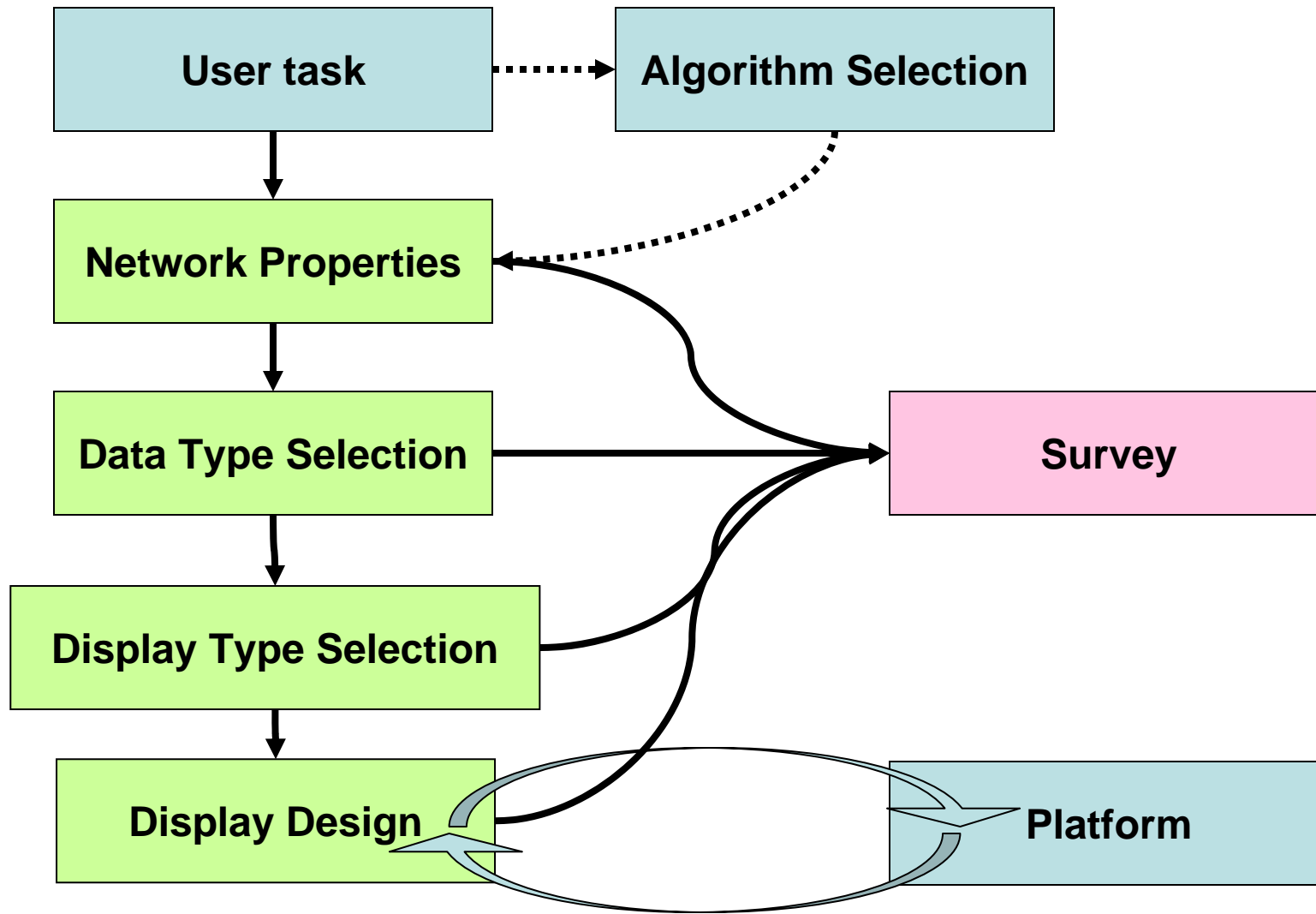
❖ Data values

- Analogue
 - Scalar
 - Vector
- Categorical
 - Linguistic
 - Non-linguistic

❖ Data manipulation

- Interactive
- Algorithmic

Workflow



Using the Framework

Framework

